

Comments and Responses Table

Document: DRAFT 2016 Year 22 Monitoring Report
Date of Document: 19 May 2017
Document Prepared by: HDR and SEE
Subject: Review and Comment on Draft Report (USACE, USEPA, Ecology)
Date of Comments: 20 June 2017
Date of Draft Comment Response: 6 July 2017
Date of Final Comment Response: 14 August 2017

Com#	Reviewer Initials	Section #	USACE Comment	C,D, E1	Response	A or D2
1	MDL	General	Is there a specific delineation of West Beach? Figure 1-3 provides a specific delineation of West Beach. However, in the discussion of sampling and results for the intertidal areas and those sections' associated figures in Sections 2 and 3, the samples outside of the area delineated in Figure 1-3 are called West Beach samples.		<p>The following footnote was added to Section 1.2.2 <i>"Historically, the beach up to and including Pritchard Park has been termed "West Beach". The 1994 ROD and subsequent EPA administrative documents define West Beach to be up to the western property line of the former Wyckoff facility. This report follows that convention, and defines sampling west of the administrative property line as "off West Beach" or off-EBS," as appropriate.</i></p> <p>For clarity and consistency, language in the final text will be updated to refer to off West Beach or off-EBS locations, as appropriate.</p>	
2	MDL	General	There are several instances throughout the document where "course" is used instead of "coarse". Please revise.	C	Document reviewed and spelling corrected where appropriate.	
3	MDL	General	Replicate and duplicate appear to be used interchangeably. Please stick with one term throughout.	C	Document and associated materials updated for consistent use of replicate.	
4	MDL	1	Page 1-2. The historical West Dock location is referenced to Figure 1-2. It is also presented on Figure 1-3.	C	Text updated to indicate that both Figures 1-2 and 1-3 present the location of the former historical West Dock.	
5	MDL	1.2.2,	2 nd paragraph. The 1994 ROD is specific to EHOU and not the entire Superfund Site. This should be clarified.	C	Text revised to state that the four OUs that are included as part of the Superfund Site.	
6	MDL	1.2.3	The list in this section are not necessarily recent activities, especially with the 1 st bullet going back to 1994. Suggest deleting "Recent" from the section heading.	C	Section header updated to remove reference to "Recent" and added "OU1 Remedial" activities.	

¹ C = Concur; D = Disagree; E = Takes exception.

² A = Agree; D = Disagree

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7	MDL	1.4	Page 1-12, last bullet. Suggest either using or including "Intertidal" with Phase II/III cap for clarity as that's how that intertidal cap area is presented in Figure 1-3.	E	The Phase III cap refers to the subtidal and intertidal portions of the placed material. The subtidal section overlaps the Phase I and Phase II caps. Phase II cap is entirely subtidal. The final text will be revised to reflect when we are purely referring to the intertidal cap versus subtidal components of the cap.	
8	MDL	Table 1-1	ESD is Explanation of Significant Differences. Appears in list of acronyms, but should also be spelled out the first time it is used.	D	ESD is spelled out the first time it is used in line No. 26 (2007 entry).	
9	MDL	Table 1-1	2017 Clam Tissue Data Report. Suggest revising this to "Clam tissue collection and analysis"	C	Revised to include consistency between similar activities versus report title.	
10	MDL	Table 1-2	This table is not referenced in the text. Please reference this table presenting the monitoring objectives for the Year 22 monitoring effort.	C	Reference to the objectives summary table (Table 1-2) has been added to the beginning of Section 1-4.	
11	MDL	2.2.2	Page 2-3, last paragraph. The 1 st sentence states that the second discretionary station was determined in the field by representatives from Ecology. Please include the rationale why this specific location was chosen.		<p>The last paragraph in this section now reads: <i>The second discretionary grid location was determined in the field by a representative from Ecology. Three discrete cover measurements, labelled as the "discrete west" locations, were collected at a location west and off of the EBS. This discretionary location was selected as being approximately half-way between the furthest planned west sampling location (D12) on the EBS and the western edge of the Pritchard Park. Post-sample plotting of the second discretionary location identified it as being within grid E11, and confirmed that the second discretionary grid location was outside (to the west) of the EBS and closer to off-site grid D12 (Figure 2-1). The sample rod was driven to refusal and the depth recorded (Table 2-3).</i></p> <p>Use of the words "discretionary" versus "discrete" have been updated in the final text, as appropriate, to provide overall clarity.</p>	
12	MDL	2.3.2	2 nd paragraph, last sentence. Please change "archival" to "archive".	C	Sentence updated to clarify that the sample was collected to be archived.	
13	MDL	2.4.1	Page 2-6. 1 st paragraph under 2016 Sample Collection. To clarify, the Wyckoff intertidal areas were sampled on 5 July 2016. The background sample was sampled on 6 July 2016.	C	Text updated to clarify when the intertidal and background samples were collected.	
14	MDL	2.4.1	Page 2-6. 2 nd paragraph under 2016 Sampling Collection. The project quality objective was presented in a QAPP.	C	Revised to reflect that the project quality objective was indicated in the QAPP not the FSP.	

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15	MDL	2.4.1	Page 2-7. Top partial paragraph. There appears to be missing text. Suggest revising to "...the horse clam species, T. nutalli..."	C	Missing text added	
16	MDL	2.4.1	Page 2-7, 1 st full paragraph, last sentence. Please clarify. This sentence reads as if an additional 20 varnish clams were collected on top of the 20 clams collected as presented at the beginning of the paragraph. NOTE: USACE collected 60 varnish clams in the intertidal cap area.	C	Text updated to clarify the varnish clams collection. Updated language reflects more closely to language reported specifically by the USACE.	
17	MDL	Figure 2-1	"Discretionary" is misspelled in the legend.	C	Misspelling corrected.	
18	MDL	3.2	Please revise "North Shore" to "North Shoal" in the section heading.	C	Section header revised.	
19	MDL	3.2.2	Please be consistent with the numbering. The bullets identify grids K-8 and L-8. Everywhere else in the document these locations are identified as K8 and L8.	C	K8 and L8 reference corrected to proper format.	
20	MDL	3.3.2	Last sentence. Delete "of".	C	"of" deleted.	
21	MDL	3.3.4	Was there anything observed at the E11 location that would affect the sampling results? Please specify. As noted in a comment above, the rationale for choosing this specific location is not given.	C	Added to 3.3.4 the following: <i>During collection at D11-c5, the smell of creosote was evident and sheens were noted in the hole left after sample collection. A photo of the sheen is included in the 13 January 2017 Daily Activity Report (Appendix E.2). Sheens were not reported at the other two discrete D11 sample stations. For the discretionary west location, sediment chemistry at the discrete west station E11-d4 west was collected close to old pilings. Creosote odor or sheens were not observed in the three discrete west sample locations.</i>	
22	MDL	Table 3-1	Location J7 results are not OC normalized. Please clarify.	E	TOC for J7 was outside of the range requiring OC normalization so the OC normalized value is not presented.	
23	MDL	Table 3-4	Please clarify the intertidal Method B carcinogen value for naphthalene. If there is no value, then the sampling results should not be shaded.	C	Naphthalene does not have an intertidal Method B carcinogenic criterion; the "0" value and the associated shading have been removed.	

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24	MDL	Table 3-4	Please clarify the intertidal Method B non-carcinogen value for naphthalene. The values in the ESD is 3,200 mg/kg.	E	The ESD value for naphthalene is incorrect, and was recalculated by EPA/USACE for the 2011 Monitoring Program. The 2004 MTCA value is 1,600. This value was used in the 2011 OMMP, the 2012 Monitoring Report, and the 2016 PMP. The value in the 2016 OMMP is the incorrect ESD value. A footnote documenting this basis for this value has been added to Table 3-4.	
25	MDL	Table 3-4	1-methylnaphthalene is not identified in the ESD, ROD, or 2016 OMMP. Please clarify.	E	1-methylnaphthalene was added by EPA and the USACE to the 2011 Monitoring Program – and was used in the subsequent plans and reports cited above. 1-methylnaphthalene <u>is</u> a MTCA-listed human health Method B non-carcinogen.	
26	MDL	Table 3-4	Please clarify the total PAHs value under the Intertidal Sediment Method B Carcinogen. This value is not identified in the ESD, ROD, or 2016 OMMP.	E	Total PAHs were added by EPA and the USACE to the 2011 Monitoring Program – and were used in the subsequent plans and reports cited above. Total PAHs are a MTCA-listed human health Method B non-carcinogen.	
27	EKB	1, p.1-2, first para.	Replace “repair for the cap is anticipated to occur in early 2017” with “repair for the cap occurred in early 2017.”	C	Text edited to clarify that the repair program was completed early 2017.	
28	EKB	1, p.1-2, second para.	Replace “due” with “prepared”. Because these 2 reports will be finalized around the same time.	C	Text updated accordingly.	
29	EKB	1.2.2	End of EBS paragraph. Period.	C	Period “.” Added.	
30	EKB	1.2.4	The actions in the proposed plan will be modified by EPA based upon public comments. Does EPA want those changes reflected in this section? Since this report is expected to be finalized contemporaneously with the ROD amendment and the 5YR, it seems like you would want them to reflect the same projected actions and be up to date to the best degree possible. For example, a replacement for the sheet pile wall is under development, and is not expected to be a concrete wall around the site, as described here. For EPA to comment upon.	N/A	Based on email correspondence between Ellen Brown and Helen Bottcher, dated 062117, this comment is resolved.	
31	EKB	1.2.4	Also, whether the specific actions get described differently or not, it may be good to include the projected timeframe for the additional actions.		Based on the discussion with the Client Team during the draft response to comments resolution meeting (11 July 2017), EPA has identified the selected action and the current language in the draft document is sufficient to capture the intended remedy.	

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32	EKB	1.3.4	What about mentioning the major substantive conclusions of the monitoring in addition to the numeric results?		No conclusions were made in the Year 17 monitoring report. The specific statement from that report was <i>"The TEQs from this sampling can be used to facilitate a risk assessment at a later date. Data do not support a risk calculation at this time."</i> Based on the discussion during the draft response to comments revisions discussion with the Client Team (11 July 2017), this quote as written has been added to the end of Section 1.3.4.	
33	EKB	1.4	Lists should have parallel structure. The bullet items shift from incomplete bits ("monitoring of..." "sampling within") in the first two bullets, to full sentences (though passive) in the rest. Please choose one structure and make them consistent. My preference is to make them all sentences.	C	Language updated for consistency in the bulleted presentations.	
34	EKB	General	EPA has been shifting to a preference for active voice in reporting. Worth noting for future – passive voice losing favor. I don't expect you to re-write this report to reflect this style change, but there are particular places where active voice will provide more complete information and I will point those out.	C	Acknowledged preferred use of active vs. passive voice.	
35	EKB	2.2.1	2 nd line "was" not "were"	C	Text updated for correct tense.	
36	EKB	2.2.2, last para, 1 st sentence	Replace "representatives" with "a representative".	C	Text updated accordingly.	
37	EKB	2.3.2	This goes to the active voice issue, the crux of which is that it provides more precise information: please say who processed the surface sediment samples (i.e. SEE or HDR personnel). Also, please state who was present for this (i.e. personnel from Ecology and EPA) and if they assisted, include them in the processing statement.	E	In this report (and previous reports) we refer to the Daily Activity Reports (Appendix E.1) where activities and personnel are listed. As discussed in the draft response to comments resolution meeting with the Client Team (11 July 2017), Table 2-1 has been updated to indicate which individual team members were involved with each daily field activity; a reference to the table in the text has also been added.	

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38	EKB	2.3.3	Please make this lead sentence an active structure. Say who collected the samples, including the subcontractors. If Ecology, corps, or EPA assisted or observed, please state that as well. For example, I was present for subsurface sampling on the boat on Jan 20. So that day should say Army Corps personnel observed the subsurface core sampling. I think Susannah Edwards from Ecology also went out, so you should also state Ecology personnel observed (or participated, as applicable) on the appropriate day.	E	All personnel involved, including EPA, USACE, or Ecology oversight, on specific days are detailed in the Daily Activity Reports (Appendix E). As discussed in the draft response to comments resolution meeting with the Client Team, Table 2-1 has been updated to indicate which individual team members were involved with each daily field activity; a reference to the table in the text has also been provided.	
39	EKB	2.3.3	State in the text the day the subsurface cores were taken. I think they were all taken on Jan. 20.	C	Text updated to read: <i>"Subtidal subsurface sediments were collected in the North Shoal subtidal area (Figure 2-3) on 20 January 2017."</i>	
40	EKB	2.3.4	Please say who processed the cores (assuming Tim, or could say SEE personnel, assisted by HDR personnel?). Also, please state who was present for this (i.e. personnel from Ecology and EPA) and if they assisted, include them in the processing statement.		<u>See</u> response to comment 37 -38. As discussed in the draft response to comments resolution meeting with the Client Team (11 July 2017), Table 2-1 has been updated to indicate with team member individuals were involved with each daily field activity; a reference to the table in the text has also been provided.	
41	EKB	2.4.1, 2016 sample collection	Last paragraph. Could you replace "that region of Puget Sound" with a more informative description? Central Puget Sound? West Central Puget Sound?	C	Text updated to reflect reference to Central Puget Sound.	
42	EKB	2.4.1, 2014 and 2016 Laboratory Methods	Insert "sufficient" between "lack of" and "tissue mass" because there was tissue mass, but it wasn't enough.	C	The qualifier "sufficient" is added to the text.	
43	EKB	Table 2-1	Now that LIDAR has been flown, please correct the date, which was 5/26/2017.	C	Table updated to include LIDAR flight date.	
44	EKB	3.1.2, last paragraph	Say both are below SQS criteria instead of below SMS.	C	Text updated to reflect SQS vs. SMS	
45	EKB	3.2.1	I think Marlowe already said this, but please do a global replace of "course" to "coarse"; and "courser" to "coarser"	C	Document globally reviewed and spelling corrected where appropriate.	

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46	EKB	2.3.1, 2 nd paragraph	Please change “late night/early morning” to “late night through early morning”; and “13 and 14” to “13 to 14”. This helps the reader understand that the sampling was done in a single outing of a few hours, rather than separate events on two days. When reading the data table the dates appear as 1/13 and 1/14, which is explicitly correct, but implies more time separation. Recommend leaving the data table alone, because it is factually correct, but creating more clarity through the text as suggested here.	C	Text edited per the request in the comment.	
47	EKB	4.6, last line	Add “amendment” after “final ROD.”	C	“Amendment” added.	
48	EKB	1, p.1-2, first para.	Replace “repair for the cap is anticipated to occur in early 2017” with “repair for the cap occurred in early 2017.”	E	Duplicate comment – see above	
49	EKB	1, p.1-2, second para.	Replace “due” with “prepared”. Because these 2 reports will be finalized around the same time.	E	Duplicate comment – see above	
50	JB	1, p. 1-1	In intro do clearer job of describing construction phases & acreage after the OMMP bullets. Something like – the original Phase I cap (54 acres) was constructed in 1993-94, was subsequently extended in several phases, and now covers more than 76 acres of intertidal and subtidal sediment.	C	Text added.	
51	JB	1, p. 1-1	Change “Section 1.1” to “Table 1-1”.	C	Text edited to read: <i>A summary of previous site activities is provided in Section 1.2 and in Table 1-1.</i>	
52	JB	1, p. 1-1	Last paragraph, 1 st sentence. ...from the 2011 “monitoring” event showed...	C	Text edited accordingly.	
53	JB	1, p. 2-1	1 st paragraph, Update cap repair discussion re. ferry scour area	C	Text edited accordingly.	
54	JB	1.2.2, p.1-3	Discussion references Figure 1-1. Add OU #s to figure labels.	C	OU numbers have been added to the figure; boundaries have not been added. Per email from H. Bottcher dated 28 June 2017, specific boundaries for OU 2 and OU 4 have not been defined.	

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55	JB	1.2.2, p. 1-4	Clarify 2017 cap repair discussion: Last sentence could read – 1-foot of clean Snohomish River sand was placed over the 9.3 acre repair area. A 2-foot thick rock layer was placed to armor 3.5 acres of the repair area. Can we add repair area to Figure 1-2?	C	Text updated as follows: <i>One foot of clean Snohomish River sand was placed over the 9.3 acre repair area. A 2-foot (ft) thick rock layer was placed on top of the sand cover to armor a portion (3.5 acres) of the repair area immediately proximal to the ferry lane.</i> Repair area added Figure 1-2:	
56	JB	1.1.2, p. 1-4	Spell out “EBS” first use. Also period needed at end of EBS paragraph.	E/C	EBS definition is spelled out with first reference on Page 1-2. Period added.	
57	JB	1.1.2, p. 1-4	Check terms like “less” when referring to elevations. North Shoal Subtidal section should say in waters “deeper” than -4 ft MLLW, not waters “less than” -4’ MLLW	C	Global edits made	
58	JB	1.2.3, p. 1-5, last bullet	Change “of the Phase I cap” to “of the repair area”.		Text edit made	
59	JB	1.3.1, p. 1-6	Report refers to “WDNR” evaluation in several places. This work was done jointly – EPA money using a WDNR contractor...how should we reference?	C	Text was updated in Section 1 (top of page 1-2) to read: <i>Additional physical surveys were undertaken by the Environmental Protection Agency (EPA) through a contract with the Washington State Department of Natural Resources (WDNR) (see discussion in Section 1.3). That report provided additional data to aid in planning for cap repair in the Phase I scour areas and to support the EPA’s planned site maintenance activities in the area offshore of the former facility’s historical West Dock (see Figures 1-2 and 1-3).</i> Also added reference to the report in Appendix C, and made further edits to the text referencing that report in Appendix C.	
60	JB	1.3.1, p. 1-7, top	Insert reference to Figure 1-2 in top line.	C	Text edit made	
61	JB	1.3.1, p. 1-7	Change “measures” to “measurements”.	C	Text edit made	

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62	JB	1.3.1, p. 1-7	Add to beginning of paragraph: "The 2011 survey showed the subtidal cap was effectively..."	C	The text at the bottom of Page 1-7 has been updated to read: "The 2011 survey showed that the subtidal cap is effectively isolating the underlying contaminated sediments, with the exception of the area within the ferry lane scour zone."	
63	JB	1.3.1, p. 1-7, footnote	Add figure showing primary gradient concept since it is referenced several times in report. e.g. 2012 Report Figure 2-10	C	New Figure 1-4 has been added to the text (adapted from original Figure 2-10 from the 2012 monitoring report.	
64	JB	1.3.1, p. 1-8	Grids J9 and J10 discussion – indicate that this area is complicated. Reference primary gradient figure and discuss that PAHs were found, but at depth in 2011...	C	Several paragraphs of additional information have been added about the history of monitoring within J9 and J10. One of the Year 22 monitoring report's recommendations includes a proposed, more comprehensive summary of monitoring results to date, which is somewhat outside the current scope of this monitoring exercise.	
65	JB	1.3.2, p. 1-9, East Beach	References N10-b4 as containing subsurface residual hydrocarbon. This is not the case in 2011 monitoring – see Figure 3-14 in 2012 report.	C	Confirmed and text updated to remove sample location N10-b4 from the list as having residual hydrocarbon concentrations in 2011 monitoring.	
66	JB	1.3.2, p. 1-9, North Shoal	Confusing use of phrase "depths below". "While mobile NAPL was noted on the North Shoal at water depths deeper than -15' MLLW..." Depths into the sediment and water depths/bathy terminology must be clear.	C	Text revised for clarity; depths below revised to depths deeper than...	
67	JB	1.3.2, p. 1-9, North Shoal	"it is assumed that the amount of overlying material on the North Shoal acts as a natural cap to contain the NAPL at depth". Where does this assumption come from? Reference?	C/E	Per the discussions with the Client Team during the draft response to comments resolution meeting (11 July 2017), this sentence has been deleted from the final text.	
68	JB	1.3.2, p. 1-9, North Shoal	"The two remaining stations had total HPAH..." What stations were those and include the supplemental human health criteria here.	C	Added to text <i>The two remaining stations (Stations L9-b4 and K9-d3 in that report) had total HPAH concentrations that exceeded the supplemental human health criterion of 1,200 µg/kg total HPAH</i>	

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69	JB	1.3.2, p. 1-9, North Shoal	"Findings in the 2012 report were consistent with those in the 2004 report". This is not strictly true, for example, in 2011 M9-a3 did not exceed criteria the way it did in 2004 report (see 2011 report Figure 3-13).	E	Based on discussions with the Client Team during the draft response to comments resolution meeting (11 July 2017), and the requested further evaluation of this finding, it was determined that a reporting error occurred in the 2004 Monitoring Report that was carried forward to subsequent reports. The text has been updated to indicate reference to the correct sampling location and the following footnote has been added to the text: <i>"This Year 22, 2017 Monitoring Report corrects an error from the 2004 and 2012 Monitoring Reports. The Year 8, 2004 Monitoring Report incorrectly identified station M9-a3 as having high concentrations of PAHs that exceeded the MCUL and/or the Sediment Quality Standard (SQS). That error was carried through into the Year 17, 2012 Monitoring Report. Table 3-5 in the 2004 report shows that station K9-d3 exceeded the SQS and MCUL for several PAHs, while PAH levels for M9-a3 were either non-detect or J-flagged at low concentration levels well below the corresponding SQS."</i>	
70	JB	1.3.2, p. 1-9, Intertidal Cap	Add "Phase III" to first sentence..." The Phase III Intertidal Cap area was created...?	C	Requested text added.	
71	JB	1.3.2, p. 1-10, Exposure Barrier System	"...while in the high intertidal areas...", remove "in" ..."identified <i>using bathymetry</i> in the lower intertidal zone...", insert "using bathymetry". Change to, "....."2011 showed that all of the low intertidal sampling stations had cover thickness measurements greater than the target 1 ft cover thickness. Four stations with less than 1 ft of cover thickness were identified in the high intertidal area..."	C	"in" removed. "using bathymetry" added Text updated to reflect clarity on cover thickness measurements between low and high intertidal areas.	

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72	JB	1.3.3, p. 1-10, Biological Monitoring	The 2002 monitoring (Year 8) report indicated that the <i>upland</i> habitat planting...", insert "upland". Edit sentence: "Sand lance eggs were collected in the intertidal area of the West Beach, but surf smelt eggs were not found." Change Fishers Service to "Fisheries Service".	C	"Upland" added. Sentence clarified concerning sand lance eggs and smelt eggs per comment. Fisheries spelling corrected.	
73	JB	1.3.4, p.1-10, Clam Tissue Monitoring	"...reported PAH analysis <i>results</i> from geoduck...", insert "results"	C	Text updated to include "results"	
74	JB	1.4, p. 1-12, Purpose and Approach	4 th bullet, Add North Shoal as a collection location for clam tissue, insert "intertidal" in "Phase III <i>Intertidal</i> Cap..."	C	"North Shoal" added as a collection location. "Intertidal" inserted per comment request.	
75	JB	1.4.1, p. 1-12, EBS and West Beach	Accuracy of precision navigation is listed as 2 meters. List accuracy of Aerial Elevation Survey and Bathymetry. Add bullet for Clam Tissue Analysis and include language like in Section 1.4.4.	C	Based on the discussion with the Client Team at the draft response to comments resolution meeting (11 July 2017), the accuracy and precision navigation listing of 2 meters was retained, but additional information on the accuracy/precision of the other surveys was not added and instead a reference to the survey technical memorandum was inserted in the text. Clam Tissue Analyses bullet added: <i>Clams were collected from West Beach on the EBS. The collected tissues were analyzed to determine body burden of PAHs and to compare to standards for human health.</i>	
76	JB	Figure 1-1	Add OU numbers to labels.	C	OU numbers added to labels on figure	
77	JB	Figure 1-2	Add repair area at ferry dock.	C	Cap repair area limits added to figures	
78	JB	2, p. 2-1, Methods	Appendix F information should be available in color hard copy in report and not in an appendix on disk.	E	Based on the discussions with the Client Team during the draft response to comments resolution meeting (11 July 2017), new Figures 2-4 and 2-5, that present composites of the subtidal cores have been created and will be included as part of the final monitoring report.	

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79	JB	2.2.1, p. 2-2	Update this section with current LIDAR status	E	This section will be updated/revised in the final data monitoring report once the survey tech memorandum is finalized.	
80	JB	2.2.2, p. 2-3	Provide more explanation of how/why discretionary locations were selected. Understand it was a group determination, including agency reps from EPA and Ecology.		<u>See</u> response to comment 11. Text has been added.	
81	JB	2.3.1, p. 2-3	Explain how samples were collected using the core tube – what is core tube made of? Was it pounded into beach? Using what? ..."jars, <i>and</i> placed into an ice chest for transport." Insert "and".	C	The following text was added: <i>"With the exception noted for the discrete west station (discussed below), sediments were collected using a precleaned, 4-inch-diameter x 3-ft-long aluminum core tube driven to at least 2 ft below the sediment surface. The tubes were pounded in with a sledge hammer, and then withdrawn by wrapping a chain wrench around the outside of the tube (see field photos in Appendix F)."</i> "and" added into text	
82	JB	2.3.1, p. 2-4	"...an archived sediment sample was collected <i>from each 0-2 ft core tube</i> prior to compositing." Insert "from each 0-2 ft core tube".	C	Text updated to include requested inserted language	

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83	JB	2.3.3, pp. 2-4 to 2-5	Understand that cores were driven to refusal. Provide explanation of why recovery was so low in glacial till. Explain why the cores provide good information even with low recoveries – or in the Results discussion.	C	<p>Text in Section 2.3.3 was modified as follows: <i>Sediment coring occurred based on the procedures described in the FSP; details of collection can be found in the 20 January 2017 Daily Monitoring Report (Appendix E), and in the Core Drive Logs (Appendix F.1.). In all cases, the surface sediments were readily collected, but refusal was encountered between 4 and 7 ft below mud surface as the corer encountered native glacial materials. The glacial till included coarse sand, gravel, and rocks that blocked further collection in the core tube and ultimately defined refusal of further penetration.</i></p> <p>Text was also added to Section 4.5.2 as follows: <i>No evidence of NAPL or hydrocarbons were identified in the subsurface cores collected at the North Shoal subtidal area coring locations. The OMMP-target depth of 2 ft of surface sediment was achieved for all locations. Glacial till underlies all of the collected cores; the presence of NAPL was not noted in four offshore stations where the recovered sediment exceeded 3 ft (J7-c5, K7-c5, K8-c5, and L8-c5).</i></p>	
84	JB	2.3.5, p. 2-5	“Water samples” are mentioned twice?	E	Water samples refer to required equipment rinsate blanks collected during the course of the investigation.	
85	JB	2.4.1, p. 2-6, 2014 Sample Collection	<p>Edit for clarity: The USACE collected clams on 16 May 2014 at three separate locations within each of four intertidal areas: Intertidal Cap, etc.</p> <p>Paragraph starting: “Procedures” could use an edit. Ramblly.</p> <p>Clams were rinsed before being placed in coolers with ice.</p>	C	<p>Text updated to reflect number of samples collected in each intertidal area.</p> <p>Procedures paragraph revised to the extent possible; language reflects what was included in 2014 clam tissue data report.</p> <p>Text about the clams being rinsed is added.</p>	
86	JB	2.4.1, p. 2-6, 2016 Sample Collection	<p>Change “EHOu units” to “EHOu intertidal areas”.</p> <p>Varnish clam paragraph is confusing in terms of numbers of clams.</p>	C	<p>Text updated to “EHOu intertidal areas”</p> <p>Varnish clam paragraph revised for clarity; however, most of the language is as reported in the clam tissue report.</p>	

Com#	Reviewer Initials	Section #	USACE Comment	C,D, E1	Response	A or D2
87	JB	Table 2-1	Add LIDAR date now known.	C	Actual LIDAR flight data added	
88	JB	Table 2-3	Change column header for West Beach samples from Measured Depth of EBS Cover to "Depth to Refusal". Move "Measured Depth of EBS Cover" down to top of EBS Sample rows.	C	Column headers adjusted for clarity between "off west beach" and EBS locations	
89	JB	Table 2-7	Compare information between Table 2-7 and Figure 2-3. Need to be consistent with each other. Why aren't the more detailed station names used in Figure 2-3? Figure 2-3 has incorrect info for J8-c3 – it was not an attempted core location. J8-c5 was the attempted station. Capitalize "k" in K8-c5 here and throughout document, including figures.	C	Figure 2-3 updated to reflect nomenclature on Table 2-7. Figure has been updated to indicate that J8-c3 was an actual sample location. K8-c5 has been updated to be capitalized.	
90	JB	Table 2-6	Change "2016 Grid Cell Station" to "2016 Grid Cell". The actual stations are more detailed – e.g. Table 2-7.	C	Revision to column header completed.	
91	JB	Figure 2-1	Labels for the E-11 discretionary sampling locations seem off...e.g. "E11-d4 east" is west of "E11-d4 west". "Mid" is not in the middle.	C	Figure 2-1, Figure 3-3, and Table 2-3 have been corrected to the property station IDs accordingly.	
92	JB	Figure 2-2	Make K8-c5 k uppercase.	C	Edit to reflect upper case "K"	
93	JB	Figure 2-3	Why doesn't this mirror Table 2-7 more? Esp, in terms of station names. Correct J8-c3 and J8-c5. Think about making stations shown the actual stations from Table 2-7...? If keep K8, change k8 to upper case.	C/E	See response to No. 89 above. Figure updated to mirror Table 2-7. J8-c3 is the correct "attempted" location. Capitalization of K8 made consistent.	
94	JB	Figure 2-5	Add "Point No Point Park" to Figure Name.	C	Figure title updated to reflect exact sample location	
95	JB	3 Results, p. 3-1	Globally change "course" and "courser" to "coarse" and "coarser".	C	Global edits completed, where appropriate.	
96	JB	3.1.2, p. 3-1	Change heading to "Surface Chemistry Results (J9 and J10)", not "Chemical Isolation..."	C	Text change made. Use of Chemical Isolation mirrors original table of contents of past monitoring reports.	
97	JB	3.2.1, p. 3-2	Physical collection data are only in Table 2-5, not 2-7.	C	Reference to Table 2-7 removed.	

Com#	Reviewer Initials	Section #	USACE Comment	C,D, E1	Response	A or D2
98	JB	3.2.1, p. 3-3	Surface sediment discussion. Table 2-5 indicates hydrocarbons were noted in 7 grabs – this should be added to surface sediment discussion.	C	The following text was added: <i>Small (2 – 5 mm diameter) blebs of hydrocarbon were noted at the following grab locations: J7-a2, J7-e2, K7-a4, J8-a2, J8-c5, K8-c5, and L8-e2 (see Table 2-5). Small blebs (2-3 mm diameter) of hydrocarbon were also noticed in the composite samples for J7 and L8, but not for K7, K8, or J8.</i>	
99	JB	3.2.1, p. 3-3	In subtidal cores section, discuss core retention and how that does or doesn't affect use. If Figure 3-1 is being used to show locations of the five cores, then need to have an icon (e.g. white dot in blue triangle) or other way of graphically showing which five stations had cores – J8-c3, K8-c5, L8-c5, K7-c5, and J7-c5. Also show attempted core J8-c5 (e.g. black dot in blue triangle).	C/E	See response to comment #83. Figure 3-1 presents North Shoal subtidal surface sampling locations and associated results only. Figure 2-3 provides the locations of the North Shoal subtidal core sample locations. References within the text have been updated for clarity.	
100	JB	3.2.2, p. 3-3	Bottom paragraph. Sentence on when OC-normalization occurs is incorrect...should read something like: "The SMS does not require OC-normalization when the TOC is out of the range of 0.5% to 3.5%." This sentence is used elsewhere in the document and should be corrected globally.	C	Text revised accordingly.	
101	JB	3.3.1, p. 3-4	Update as possible.	E	Will be updated upon finalization of survey technical memorandum.	
102	JB	3.3.4, p. 3-5.	Please include discussion on how/why discretionary stations were chosen. It's confusing to refer to the grid location as D12, when in fact two of the discrete sampling sites are in grid D11. Change to read "...were made at the six discrete sampling sites near or within these two grids...", Insert "near or".	C	<u>See</u> response to comment 11: text was added. Second paragraph of 3.3.4 now reads: <i>Physical measurements were made with the driven sampling bar at the six discrete sampling sites near or within these two grids. These measurements are reported in Table 2-3 and shown in Figure 3-2; however, these measurements are not a measure of cover thickness, but represent depth-to-refusal at those locations. Likewise, sediment cores were collected within, or immediately proximal to grids D12 and E11. Specific sampling locations are shown in Figure 3-3.</i>	
103	JB	3.3.4, p. 3-5	Change to: "Table 3-4 compares the results of the off-EBS composite samples to the <i>human health remedial actions goals</i> , designated in the ROD..."	C	Text updated.	
104	JB	3.4, p 3-6, Clam Tissue	Change to: "...was detected (at 4.78 µg/kg-w) in the <i>single background clam collected</i> (i.e., the sample collected off Point No Point Park)."	C	Text updated accordingly.	

Com#	Reviewer Initials	Section #	USACE Comment	C,D, E1	Response	A or D2
105	JB	Table 3-1	Add footnote that states how Total Benzofluoranthenes (b+j+k isomers) value is calculated.	C/E	The total benzofluoranthene concentrations (including the b, j, and k isomers) are as reported by the laboratory. A footnote has been added to Tables 3-1 and 3-3.	
106	JB	Figure 3-1	See comment #50 above. Also, k8-c5 should be change to K8-c5. Legend footnote 2 should follow naming convention for this report...change A2 to a2.	C	Figure updated accordingly.	
107	JB	Figure 3-2	See comment #42 above on station names for E11-d4.	C	<u>We believe this refers to Comment # 91 above.</u> Edits made to Figures 2-1, 3-2, 3-3, and Table 2-3, as appropriate.	
108	JB	Figure 3-3	See comments #42 and #58 above.	E	Comments #42 and #58 do not reflect edits for Figure 3-3. Figure has been updated to reflect correct west discretionary labels, as appropriate.	
109	JB	4.3.1, p. 4-2	Bottom paragraph. Insert: "Two of the three J9 grab sample locations..." , insert "J9".	C	Reference to Grid J9 inserted.	
110	JB	4.3.2, p. 4-3	See comment #14 above, would be another good place to reference figure with definitions for primary and shallow gradient sample depths.	C	Reference to newly added Figure 1-4 inserted in text.	
111	JB	4.3.2, p. 4-3	"No evidence of hydrocarbons were identified in any of the J9 and J10 2017 surface grab samples; core samples at locations..." Insert J9 and J10 and change location to locations.	C	Requested edits completed.	
112	JB	4.4.1, p. 4-4	Provide whatever current status of topographic work.	C/E	Update on the results of the survey program will be provided in the survey technical memorandum which will be finalized prior to finalization the monitoring report. Results of the survey will be updated with final report.	
113	JB	4.5, p. 4-4	"The objectives for the North Shoal subtidal <i>sediments</i> were to..." Insert "sediments".	C	Sediments inserted.	
114	JB	4.5.1, p. 4-5	Incorrect OC-normalization statement...see comment #51 above.	C	Sentence updated based on previous comment.	

Com#	Reviewer Initials	Section #	USACE Comment	C,D, E1	Response	A or D2
115	JB	4.6, p. 4-5 Clam Tissue Monitoring	Section needs to restate that only one clam was collected from North Shoal and from background at Point No Point Park. Also, should mention that two species of horse clam were collected. “...was detected in the reference area <i>clam</i> .” Change clams to clam.		The text now reads: <i>In the 2016 collection, horse clams were collected at all four intertidal locations, including East Beach, North Shoal, Intertidal Cap, and West Beach. On East Beach and the North Shoal, more Tresus nuttallii species were found, compared to the Intertidal Cap and West Beach, where primarily Tresus capax were found. The availability of clams on West Beach was significant as clams were not found there during the 2011 sampling program. For the North Shoal, only a single clam was found. To develop a background level of PAHs, a single horse clam tissue was also collected from Point No Point Park located on the northern end of the Kitsap Peninsula.</i>	
116	JB	5.2, p. 5-2	Edit: “...and the complete lack of cover material at the H12-c3 discretionary sample location”.	C/E	Reference to H12-c3 moved to suggested location.	
117	JB	5.2, p. 5-2	Update placeholder bullet. Remove “that” from 4 th line, last bullet.	C/E	Placeholder bullet will be updated when survey technical memorandum is finalized. “that” removed from 4 th line.	
118	JB	5.3, p. 5-3.	Why would low-level detections at J9 demonstrate a potential for vertical migration? There is basically no cap at this location – whether it moved off or was never capped. We should discuss what can really be said here. Any number of things could be affecting this major grid location.	C/E	Per discussions with the Client Team during the response to comments resolution meeting (11 July 2017), this sentence has been deleted in the final text.	
119	SE	Section 3.1.2, 2nd paragraph	Says “...results exceeding relevant criteria are presented on Figure 3-1”. This sentence alludes that there were exceedances within J9 and/or J10 (there were a few in K8 and L8 but none in J9 and J10). Suggest phrasing “...discrete sampling locations are presented on Figure 3-1”.	C	Text edit made	
120	SE	Section 4.4.3	I believe we observed NAPL in one of the discrete “West Beach Off-EBS sampling locations” – one of the “D” samples. Suggest making note of the observation in this section.	C	Additional language on the observations made in the field, including sheen and potential NAPL, have been added to Section 3.3.4 (also see comment response No. 21)	
121	SE	Figure 2-5	Add an area map to the figure so readers can identify where the background tissue sample location is within Puget Sound.	C	Inset image for relative location within the Puget Sound has been added.	
122	SE	General	If I remember correctly we observed very small sheens in a couple of the K or L samples. This was not noted in the report. I recommend having HDR double check field notes.		See response to comment No. 98, additional language added to Section 3.2.1.	